Transport Process Research –Flow and Mixing Characteristics under Confined Impinging Streams

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July – Sept 2004

- A Comparative study of five low Reynolds number k-ε models for impingement heat transfer
- A Computational study of turbulent mixing in three-dimensional confined opposing jets
- A numerical study of flow and mixing characteristics of three-dimensional confined turbulent opposing jets

Jul – Dec 2003

- Some new approaches to improve the mixing performance under confined laminar opposing jets
- Effect of temperature difference on flow and Mixing characteristics of laminar confined opposing jets

Oct 2004-Feb 2005

- Preparation of experimental setup to measure the mixing profile under confined turbulent opposing jets
- CFD validation using published experimental data in a tee mixer

March –May 2005

- Install, adjust experimental setup and conduct experiments
- Some possible new geometries to improve mixing quality in a tee mixer
- Validate CFD models using the new experiment data

Jun –Aug 2005

- Numerical study on the mixing characteristics for multi rows of single/multiple impinging jets in a tee mixer
- Parametric study on the flow and mixing characteristics under confined turbulent opposing jets without cross flow

Sept –Nov 2005

- Thesis writing and thesis submission